

WHAT IS CLAIMED IS:

1. An image input-output apparatus comprising:  
reader means for reading an original on an  
original table;

5       memory means capable of storing image information;  
communication means for communication with another  
information processing apparatus through a  
communication medium;

10      print means for printing image data; and  
control means for selectively executing a copy  
mode operation for printing the image data, read by  
said reader means, by said print means, a print mode  
operation for printing the image data, stored in said  
memory means, by said print means, or a read mode  
operation for storing the image data, read by said  
reader means, in said memory means;

15      wherein said control means is adapted, in said  
copy mode operation, to mutually synchronize the  
reading operation by said reader means with the  
printing operation by said print means thereby  
transmitting the image data read by said reader means  
directly to said print means, and, in said print mode  
operation or in said read mode operation, to make  
access to said memory means according to the operation  
20      of said print means or said reader means.

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2. An image input-output apparatus according to

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claim 1, wherein said control means is adapted to operate said print means, giving highest priority to said print mode operation and next priority to said copy mode operation.

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3. An image input-output apparatus according to claim 2, wherein said print means is provided at least two output locations for the print result, and said control means is adapted, in case of a request for the 10 copy mode operation in the course of said print mode operation, to interrupt said print mode operation and to execute said copy mode operation if said output location is available in said print means, and said print means is adapted to output the print result of 15 said copy mode operation to said output location.

4. An image input-output apparatus according to claim 3, wherein said control means is adapted, in case of a request for the copy mode operation in the course 20 of said print mode operation, to execute said copy mode operation after the completion of said print mode operation if said output location is not available in said print means.

25 5. An image input-output apparatus according to claim 1, wherein said memory means has an image data memory area for storing the image read by said reader

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means, and a print data memory area for storing a print output image in said print means; and

the memory capacity of said print data memory area does not exceed the image capacity of one page in said print means.

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6. An image input-output method for use in an image input-output apparatus provided with reader means for reading an original on an original table, memory means capable of storing image information, communication means for communication with another information processing apparatus through a communication medium, and print means for printing image data, the method comprising:

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selectively executing a copy mode operation for printing the image data, read by said reader means, by said print means, a print mode operation for printing the image data, stored in said memory means, by said print means, or a read mode operation for storing the image data, read by said reader means, in said memory means; and, in said copy mode operation, mutually synchronizing the reading operation by said reader means with the printing operation by said print means thereby transmitting the image data read by said reader means directly to said print means, and, in said print mode operation or in said read mode operation, making access to said memory means according to the operation

means with the printing operation by said print means thereby transmitting the image data read by said reader means directly to said print means, and, in said print mode operation or in said read mode operation, making access to said memory means according to the operation

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mode operation or in said read mode operation, making access to said memory means according to the operation

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of said print means or said reader means.

5       7. An image input-output method according to  
claim 6, wherein said print means is operated with  
highest priority given to said print mode operation and  
next priority given to said copy mode operation.

10      8. An image input-output method according to  
claim 7, wherein said print means is provided at least  
two output locations for the print result, and, in case  
of a request for the copy mode operation in the course  
of said print mode operation, said print mode operation  
is interrupted and said copy mode operation is executed  
if said output location is available in said print  
means, and said print means is adapted to output the  
print result of said copy mode operation to said output  
location.

20      9. An image input-output method according to  
claim 8, wherein, in case of a request for the copy  
mode operation in the course of said print mode  
operation, said copy mode operation is executed after  
the completion of said print mode operation if said  
output location is not available in said print means.

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10. An image input-output method according to  
claim 6, wherein said memory means has an image data

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memory area for storing the image read by said reader means, and a print data memory area for storing a print output image in said print means; and

5 the memory capacity of said print data memory area does not exceed the image capacity of one page in said print means.

10 11. An apparatus provided with a print function for printing an image specified by print data from an external apparatus and a reading function for reading an original image, comprising:

15 print function realizing means having a first mode of realizing said print function with a smaller memory capacity and a second mode of realizing said print function with a relatively large memory capacity;

discrimination means for discriminating whether the print of the image specified by the print data from the external apparatus is to be realized by said first or second mode; and

20 control means adapted, in case said discrimination means judges that said print is to be realized by said first mode, to allow parallel execution of the print function and the reading function, and, in case that said print is to be realized by said second mode, to 25 inhibit said parallel execution.

12. An apparatus according to claim 11, wherein

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5           said first mode utilize a banding method, while said  
second mode secures an area for storing bit image data  
of a page.

10           5       13. An apparatus according to claim 11, wherein  
said discrimination means is adapted, based on the  
print data from said external apparatus, to judge  
whether said image print is to be realized by said  
first or second mode.

15           10       14. An apparatus according to claim 13, wherein  
said discrimination means is adapted, if the print data  
of a page from the external apparatus cannot be stored  
in a memory, to judge that said image print is to be  
realized by said second mode.

20           15       15. An apparatus according to claim 11, further  
comprising a copy function, and discrimination means  
adapted, in case of a request for copying in the course  
of a print job which includes printing of plural pages,  
to judge whether said print job is to be interrupted  
based on at least either of a requested copy condition  
and a status of the apparatus.

25           20       16. A method for controlling an apparatus  
provided with a print function for printing an image  
specified by print data from an external apparatus and

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a reading function for reading an original image and  
also having a first mode of realizing said print  
function with a smaller memory capacity and a second  
mode of realizing said print function with a relatively  
large memory capacity, the method comprising steps of:

5  
10 a discrimination step of discriminating whether  
the print of the image specified by the print data from  
the external apparatus is to be realized by said first  
or second mode; and

15  
10 a control step adapted, if said discrimination  
step judges that said print is to be realized by said  
first mode, to allow parallel execution of the print  
function and the reading function, and, if said print  
is to be realized by said second mode, to inhibit said  
parallel execution.

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17. A method according to claim 16, wherein said  
first mode utilizes a banding method, while said second  
mode secures an area for storing bit image data of a  
page.

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18. A method according to claim 16, wherein said  
discrimination step is adapted, based on the print data  
from said external apparatus, to judge whether said  
image print is to be realized by said first or second  
mode.

19. A method according to claim 18, wherein said discrimination step is adapted, if the print data of a page from the external apparatus cannot be stored in a memory, to judge that said image print is to be  
5 realized by said second mode.

20. A method according to claim 16, wherein said apparatus additionally has a copying function, and said method further comprises a step adapted, in case of a request for copying in the course of a print job which includes printing of plural pages, to judge whether said print job is to be interrupted based on at least either of a requested copy condition and a status of the apparatus.  
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21. An apparatus provided with a copy function for printing an original image read by reader means and a printing function for printing an image specified by print data from an external apparatus, comprising:  
20 discrimination means adapted, in case of a request for copying in the course of a print job which includes printing of plural pages, to judge whether said print job is to be interrupted based on at least either of a requested copy condition and a status of the apparatus;  
25 and  
control means adapted, if said discrimination means judges that said print job is to be interrupted,  
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to interrupt the print job and to execute the requested copying operation.

22. An apparatus according to claim 21, further comprising plural sheet discharge means;

wherein said discrimination means includes means adapted to judge whether the print job is to be interrupted or not based on the number of the sheet discharge means required by the requested copy condition and the number of the sheet discharge means available for said copying operation.

23. An apparatus according to claim 21, further comprising a function for sorting the printed sheets:

wherein said discrimination means includes means for discriminating whether the print job is to be interrupted or not based on whether the requested copy condition utilizes the sorting function.

24. An apparatus according to claim 21, further comprising generation means for generating bit image data based on the print data from the external apparatus;

wherein said generation means is adapted, if said control means interrupts the print job and executes the requested copying operation, to execute generation of the bit image data parallel to said copying operation.

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25. An apparatus according to claim 21, adapted if the print job is interrupted and the requested copying operation is executed, to re-start the interrupted print job after the completion of said copying operation.

26. A method for controlling an apparatus  
provided with a copy function for printing an original  
image read by reader means and a printing function for  
10 printing an image specified by print data from an  
external apparatus, the method comprising:

a discrimination step adapted, in case of a request for copying in the course of a print job which includes printing of plural pages, to judge whether said print job is to be interrupted based on at least either of a requested copy condition and a status of the apparatus; and

20 a control step adapted, if said discrimination step judges that said print job is to be interrupted, to interrupt the print job and to execute the requested copying operation.

27. A method according to claim 26, wherein said apparatus includes plural sheet discharge means;  
25 wherein said discrimination step includes a step for judging whether the print job is to be interrupted or not based on the number of the sheet discharge means

required by the requested copy condition and the number of the sheet discharge means available for said copying operation.

28. A method according to claim 26, wherein said apparatus further includes a function for sorting the printed sheets;

wherein said discrimination step includes a step of discriminating whether the print job is to be

10. interrupted or not based on whether the requested copy condition utilizes the sorting function.

29. A method according to claim 26, further comprising a generation step of generating bit image data based on the print data from the external apparatus;

wherein said generation step is adapted, if said control step interrupts the print job and executes the requested copying operation, to execute generation of the bit image data parallel to said copying operation.

30. A method according to claim 26, adapted, if the print job is interrupted and the requested copying operation is executed, to re-start the interrupted print job after the completion of said copying operation.